## **ABSTRACT**

Disclosed is a vector containing a nucleic acid sequence encoding erythropoietin (Epo) in operable linkage with an HRE expression control sequence, as well as uses thereof; for instance, in preparing a medicament, as well as in methods for treating anemia in a patient in need thereof. The method can involve administering to the patient a vector comprising a nucleic acid sequence encoding erythropoietin (Epo) in operable linkage with an HRE expression control sequence, wherein expression of Epo is physiologically regulated such that hematocrit levels of the patient are corrected and maintained.

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